

In the Claims

Cancel claims 2 and 7 to 10.

Amend claims 3 and 4.

3. (amended) A method [according to claim 2, further comprising the step of:] for transmitting frames of data over a wireless access system, each frame having a plurality of data slots, comprising the steps of:

identifying the types of traffic being transmitted between a first communication device and a second communication device;

reserving at least one data slot in a frame for each type of traffic being transmitted between the first communication device and the second communication device; and

including a control time slot in the frame that identifies the first communication device, the second communication device, and the traffic type of each data slot in the frame.

4. A method [according to claim 2,] for transmitting frames of data over a wireless access system, each frame having a plurality of data slots, comprising the steps of:

identifying the types of traffic being transmitted between a first communication device and a second communication device; and

reserving at least one data slot in a frame for each type of traffic being transmitted between the first communication device and the second communication device; and

wherein the identifying step includes the substep of identifying the types of traffic being transmitted between a third communication device and one of the first and second communication devices.

Add the following claims.

11. A system for decoding symbols modulated onto a plurality of subcarriers, each symbol corresponding to one or more data bits where each combination of bits represents a unique phase, said system comprising:

a plurality of antennas;

means for receiving at said antennas a waveform formed from the superposition of a plurality of modulated subcarriers, each modulated subcarrier having a different frequency and formed by modulating one of a plurality of serial symbols onto a corresponding one of a

plurality of subcarriers based on the difference in phase between each pair of adjacent symbols;

means for extracting the response of each of said antennas to each of the individual subcarriers;

means for forming a vector for each subcarrier having a plurality of elements equal to the number of said antennas, each element of a vector of a particular subcarrier representing the extracted response of one of said plurality of antennas to the particular subcarrier;

means for mathematically combining the vectors corresponding to each pair of adjacent subcarriers to calculate the phase difference between each pair of adjacent subcarriers; and

means for determining the value of each symbol based on the phase differences resulting from the mathematical combination of each pair of adjacent vectors.

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12. A system for transmitting frames of data over a wireless access system, each frame having a plurality of data slots, said system comprising:

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means for identifying the types of traffic being transmitted between a first communication device and a second communication device;

means for reserving at least one data slot in a frame for each type of traffic being transmitted between the first communication device and the second communication device; and

means for including a control time slot in the frame that identifies the first communication device, the second communication device, and the traffic type of each data slot in the frame.

13. The system in accordance with claim 12 wherein said means for identifying includes means for identifying the types of traffic being transmitted between a third communication device and one of the first and second communication devices.

14. The system in accordance with claim 12 wherein said plurality of time slots includes at least one time slot for transmitting voice traffic.

15. The system in accordance with claim 12 wherein said plurality of time slots includes at least one time slot for transmitting video traffic.